

Title (en)

Side chain polymers and their use for optical components

Title (de)

Seitengruppenpolymere und ihre Verwendung für optische Bauelemente

Title (fr)

Polymères à chaînes latérales et leur emploi pour composants optiques

Publication

EP 0704513 A1 19960403 (DE)

Application

EP 95114686 A 19950919

Priority

DE 4434966 A 19940930

Abstract (en)

Polymers with a poly(meth)acrylate main chain and side chains of formula (I) and (II) are claimed. In the formulae: S<1> and S<2> = O, S or NR1 (with R1 = H, 1-6C alkyl or Ph); T<1> and T<2> = -(CR1R12)n-, opt. with in-chain -O-, -S-, -NR1- or -OSi(R1)2O- (with n = 2-12); Q<1> and Q<2> = -O-, -COO-, -OCO-, -CONR1-, -NR1CO-, -NR1-, -O-Phe-COO- or -O-Phe-CONR1- (with Phe = C6H4); or the combinations S<1>T<1>Q<1> and/or S<2>T<2>Q<2> may also represent a ring of formula (a); R2-R6 = H, halogen, 1-4C alkyl or alkoxy, CF3, nitro, -SO2Me, -SO2NH2 or CN; at least one of these gps. must not be H; R7-R9 = H, 1-6C alkyl, alkoxy, alkylthio, alkylsulphonyl or alkylaminocarbonyl, OH, -OPh, -SPh, halogen, CF3, CCl3, CBr3, nitro, CN, phenylsulphonyl, -COOR1, aminosulphonyl, phenylaminosulphonyl, aminocarbonyl or phenylaminocarbonyl; R10 = H, halogen, 1-6C alkyl or alkoxy, OH, OPh, or 1-4C alkylamino or alkylsulphonylamino; R11 = H, halogen, 1-6C alkyl or alkoxy, OH or OPh; Y = direct bond, -COO-, -OCO-, -CONH-, -NHCO-, -O-, -NH-, -NMe- or -N=N-; X<1> and X<2> = H, OH, SH, CF3, CCl3, CBr3, halogen, CN, nitro, COOR1, 1-6C alkyl, alkylsulphonyl, alkylaminosulphonyl or alkylaminocarbonyl, 5-12C cycloalkyl, 1-12C alkoxy or alkylthio, 6-12C aryl, aryloxy, arylthio or arylsulphonyl, aminosulphonyl, phenylaminosulphonyl, aminocarbonyl, phenylaminocarbonyl, -NR12R13, -NHCOR12, -NHCO2R12, -NHCONR1R2, -NHCOOR12 or -SO2CF3; R12 and R13 = H, 1-4C alkyl or Ph; if R7-R11 = H and ring B is substd. with 1-4C alkyl or alkoxy, nitro or CN, at least one second substit. is present in the system (ring A)-Y-(ring B).

Abstract (de)

Seitengruppenpolymere, deren permanent formanisotrope Seitengruppen laterale Substituenten tragen, eignen sich aufgrund ihrer hervorragenden Eigenschaften besonders gut für optische Bauelemente, die insbesondere in der optischen Datenspeicherung und -übertragung eingesetzt werden können.

IPC 1-7

C09K 19/38; C08F 20/34; C08F 20/30

IPC 8 full level

G03C 1/73 (2006.01); **C08F 20/22** (2006.01); **C08F 20/30** (2006.01); **C08F 20/34** (2006.01); **C08F 20/38** (2006.01); **C08F 220/34** (2006.01); **C08F 220/36** (2006.01); **C08F 220/38** (2006.01); **C09K 19/38** (2006.01); **G02B 1/04** (2006.01); **G11B 7/244** (2006.01); **G11B 7/253** (2006.01); **G11B 7/246** (2006.01); **G11B 7/2467** (2013.01)

CPC (source: EP KR US)

C08F 20/30 (2013.01 - EP US); **C08F 20/34** (2013.01 - EP US); **C08F 220/10** (2013.01 - KR); **C08F 220/26** (2013.01 - KR); **C09K 19/3852** (2013.01 - EP US); **G11B 7/245** (2013.01 - EP US); **G11B 7/2467** (2013.01 - EP US)

Citation (applicant)

- EP 0335302 A2 19891004 - ROEHM GMBH [DE]
- DD 276297 A1 19900221 - AKAD WISSENSCHAFTEN DDR [DD]
- DE 3808430 A1 19890928 - CONSORTIUM ELEKTROCHEM IND [DE]
- SU 887574 A1 19811207 - MO OP EHA OKT P CKO PEBO OP EH [SU]
- EICH, WENDORFF, MAKROMOL. CHEM., RAPID COMMUN., vol. 8, 1987, pages 467
- ANDERLE, BIRENHEIDE, WENDORFF, MAKROMOL. CHEM., MAKROMOL. SYMP., vol. 44, 1991, pages 11 - 22
- IVANOV ET AL., MAKROMOL. CHEM., RAPID COMMUN., vol. 12, 1991, pages 709 - 715
- ANDERLE ET AL., MAKROMOL. CHEM., RAPID COMMUN., vol. 10, 1989, pages 477 FF
- NATANSOHN ET AL., MACROMOLECULES, vol. 25, 1992, pages 2268 - 2273
- MAKROMOLEKULARE CHEMIE, vol. 187, 1984, pages 1327 - 1334
- EUROP. POLYM., vol. 18, 1982, pages 561
- LIQ. CRYST., vol. 2, 1987, pages 195
- B. VOLLMER: "Grundriss der Makromolekularen Chemie", 1962, SPRINGER-VERLAG, HEIDELBERG, pages: 406 - 410

Citation (search report)

- [PX] EP 0659865 A1 19950628 - DAINIPPON INK & CHEMICALS [JP]
- [X] EP 0322708 A2 19890705 - HOFFMANN LA ROCHE [CH]
- [X] EP 0538773 A1 19930428 - ROEHM GMBH [DE]
- [X] GB 2246138 A 19920122 - MARCONI GEC LTD [GB]
- [X] EP 0590421 A1 19940406 - BASF AG [DE]
- [X] EP 0230898 A2 19870805 - CELANESE CORP [US]
- [X] WO 9112280 A1 19910822 - HOECHST CELANESE CORP [US]

Cited by

KR100785990B1; EP0856527A1; DE19703132A1; DE19706029A1; DE19706029C2; GB2329393B; USRE41281E; US7018684B2; WO0192360A1; US6379758B1; KR100472886B1; US7175890B2; USRE39605E; WO9744365A1; WO2006133846A3

Designated contracting state (EPC)

CH DE FR GB IT LI NL

DOCDB simple family (publication)

EP 0704513 A1 19960403; EP 0704513 B1 20010110; DE 4434966 A1 19960404; DE 59508952 D1 20010215; JP 3651980 B2 20050525; JP H08109226 A 19960430; KR 100355164 B1 20030124; KR 960010699 A 19960420; US 5641846 A 19970624

DOCDB simple family (application)

EP 95114686 A 19950919; DE 4434966 A 19940930; DE 59508952 T 19950919; JP 26800595 A 19950922; KR 19950032757 A 19950929;
US 53212995 A 19950922